

relationships, I am obliged to consider it a new genus, which I will designate by the name of **Rhachidospermum Mexicanum**.

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Grasses in the wrong genus.

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In a recent study of our species of *Aristida*, *Stipa*, and *Oryzopsis*, it seemed to me best to slightly modify or extend the characters of the two latter genera and restore Nuttall's genus *Eriocoma*. In accordance with this plan, four species formerly placed under *Stipa* should take positions under *Oryzopsis*. I expressed my views in regard to such a position for these species in a letter to Professor F. L. Scribner, and to them he fully agrees. I present the descriptions of *Stipa*, *Oryzopsis*, and the four species in question.

STIPA L. Spikelets 1-flowered, on slender spreading pedicels or nearly sessile in a terminal panicle, rachilla articulate above the empty glumes: the two empty glumes narrow, persistent, membranous, keeled, unawned or rarely with a slender awn: floral glume narrow, rigid, rolled around the flower, usually with a curved short-pointed hairy callus at the base, and a terminal undivided bent awn closely and spirally twisted below the bend, sometimes with a tooth on each side the base of the awn, the awn tardily separating by a joint or rarely persistent: palea enclosed by the floral glume, 2-nerved: lodicules often 3 and large: stamens 3; anthers often tipped with a tuft of short hairs: styles short, distinct: caryopsis narrow, subterete, enclosed by the floral glume, but free.—Tufted, usually tall grasses, the narrow leaves often convolute or involute. The ciliate hairs on the stipe, aided by the twisting and untwisting of the awn, often bury the grain in the soil.

ORYZOPSIS Michx. Spikelets 1-flowered, usually ovoid or oblong, paniculate, rachilla articulate above the lower glumes, not produced above the flower, with a very short blunt or truncate callus: empty glumes 2, persistent, equal or the outer a little shorter, broad, obtuse or abruptly pointed, convex on the back: floral glume broad, shorter or longer than the other glumes, membranous becoming hard, ob-

tuse or truncate, usually producing a terminal caducous awn which is more or less loosely bent near the base: palea 2-keeled: stamens 3: lodicules 2, conspicuous: styles short or long, distinct: caryopsis oblong or ovate, enclosed by the hardened floral glume and palea, but free.—Tufted perennials; leaves broad and flat or narrow and involute; panicle terminal, lax.

O. Richardsonii. Culms rather slender, 5 to 9 dm. long: radical leaves scabrid, slender, 2 to 4 dm. long, those of the culm 3, flat or soon involute, the largest 2 mm. wide, the upper one 1 to 2 dm. long; sheaths much shorter than the internodes; ligule about 2 mm. on the lower leaves and 5 mm. on the upper: panicle exserted on the culm 2 to 3 dm., loose, slender, 7 to 12 cm. long, branches mostly in pairs, the longest 2 to 4 cm. long and bearing a few spikelets near its apex: empty glumes subequal, oblong, acutish, brittle when mature, mostly 3-nerved, 4 to 5 mm. long; floral pubescent, linear-oblong, becoming dark brown, about 3 mm. long; awn tortuous, slightly twisted, 9 to 16 mm. long.—*Stipa Richardsonii* Link.

O. Mongolica. A slender erect grass about 3 dm. high: leaves rigid, very slender, involute, those of the radical tufts half as long as the culm, those of the culm 2, 3 to 5 cm. long; the sheaths shorter than the internodes; ligule about 2 mm. long: panicle exserted, loose, few-flowered, 4 to 8 cm. long, the lower rays in twos or threes: empty glumes membranous, subequal, purplish, obtuse, 5 to 6 mm. long, first 3-nerved, second 3 to 5-nerved: floral glume slightly hairy, about 4.5 mm. long including the sharp almost obtuse callus and the 2-toothed apex; awn irregularly bent and plumose throughout, nearly 2 mm. long: palea as long as its glume or longer: stamens 3.—*Stipa Mongolica* Turcz.

O. caduca. Culms erect, rather stout, about 6 dm. high: leaves of the culm 3, smooth, involute, with long slender points, the second one reaching nearly to the base of the panicle, the third 12 to 18 cm. long, sometimes extending beyond the panicle; sheaths shorter than the internodes, ciliate on the margins; ligule 3 to 4 mm. long: panicle but little exserted, open, 10 to 20 cm. long, branches in twos and threes, the half whorls 3 to 4 cm. distant, flower-bearing along the upper third: empty glumes dull green, tinged with purple, equal or the first a little longer, elliptical-lanceolate when the apex is spread, strongly 3-nerved, 6 to 7 mm. long: floret elliptical, 5 mm. long from the short scarcely acute

callus to the joint of the awn, clothed with prominent silky white hairs over 1 mm. long; awn slightly twisted and bent, about 2 cm. long.—*Stipa caduca* Scribner. Collected by Professor F. L. Scribner at Sixteen-mile creek, Belt Mts., Montana, July 11, 1883.

O. Pringlei. Culms erect, rather slender, 6 to 12 dm. high: radical leaves numerous, half or two-thirds as long as the culm, scabrous, flat or involute, the largest 2 mm. wide, those of the culm 3, the upper one filiform, rigid, 3 to 6 cm. long; sheaths longer than the internodes; ligule 2 to 3 mm. long: panicle much exserted, open, thin, flexuose, 15 to 20 cm. long, branches slender, in twos to fours, some of them half as long as the panicle, bearing a few flowers above the middle: empty glumes equal, green on the back, brownish towards the thin margins and apex, elliptical-lanceolate, 5-nerved, 8 to 10 mm. long: floret lance-obovate, flattened, pubescent, becoming dark brown, 6 mm. long, callus blunt; awn irregularly bent, slightly twisted for the lower half, about 2 cm. long: palea firm, nearly as long as its glume: stamens 3.—No. 1410, C. G. Pringle, collected in Chihuahua, Mexico, 1887, and distributed as *Stipa Pringlei* Scribner.

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Preliminary notes on Perityle.

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(WITH PLATE XIII.)

Bentham and Hooker, in 1876, assigned but two species to this genus in their "Genera Plantarum." When this genus was revised in the "Synoptical Flora" (1884) only ten species were recorded. In the last few years, especially through the explorations in Lower California, quite a mass of new material has been brought to light and the number of species has been doubled, besides adding a number of well marked varieties. I have not attempted at this time to make a complete revision of the genus, but to bring together the data which have come to light since the publication of the "Synoptical Flora."

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